



Micro Autonomous Systems and Technology (MAST) Collaborative Technology Alliance:

Business Plan

Ms. Patricia Fox
US Army, RDECOM Acquisition Center

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The Program Announcement (PA)

- ***Nothing said today is intended to change the contents of the Program Announcement (PA). Should there be a conflict between what is said today, and what is in the Final PA, the Final PA prevails.***



- I. EXECUTIVE SUMMARY**
- II. PROGRAM BACKGROUND**
- III. FUNDAMENTAL RESEARCH COMPONENT**
- IV. TECHNOLOGY TRANSITION COMPONENT**
- V. COLLABORATION**
- VI. MANAGEMENT**
- VII. CONSORTIUM QUALIFICATIONS**
- VIII. PROPOSAL PREPARATION AND SUBMISSION**
- IX. EVALUATION AND AWARD**



I. Executive Summary

- **The MAST CTA Program has 2 components and as a result of this PA 2 instruments will be awarded:**
 - A Cooperative Agreement will be awarded to a consortium for the Fundamental Research Component
 - A Procurement contract will be awarded to the lead of the consortium for the Technology Transition Component



I. Executive Summary

- **The Consortium will be made up of Four Principal Members and General Members (as necessary and appropriate)**
- **Under the PA, the four Principal Members will be selected for award**
- **The Four Principal Members are as follows:**
 - Principal Member for Integration
 - Consortium lead
 - Expected (but not required) to be an industrial concern
 - Three Principal Members from academia
 - Microsystem Mechanics
 - Processing for Autonomous Operation
 - Microelectronics



I. Executive Summary (cont'd)

- **Place of performance for the Principal Member for Integration is limited to the US**
- **No limitation on the place of performance for all other participants**
- **Articles of Collaboration for the consortium issued by the Government**
- **Funding for the Fundamental Research Component: \$10M per year for 5 years with 5-year option**
- **Profit/Fee: no profit or fee on fundamental research component, profit/fee possible on technology transition component**
- **Cost sharing is encouraged, but not required**



I. Executive Summary (cont'd)

• Award Schedule

Draft PA released	17 July 2006
Opportunity Conference	15 August 2006
Final PA released	1 September 2006
Proposals due	15 October 2006
Evaluation and Negotiations	November 2006 - January 2007
Final Proposals due	February 2007
Award	May 2007



III. Fundamental Research Component

- **6.1 Basic Research**
- **All results publishable**
- **Up to 10% of funds subject to redirection by ARL to fund novel research projects under the cooperative agreements (can be to current participants in the MAST CTA, or to others outside of the MAST CTA)**
- **For proposal preparation purposes, each Principal Member is funded at \$2.5M/year (this number may change annually)**



Technical Areas, with examples of research areas

- **Microsystem Mechanics**
 - Platform stability & control
 - Low Reynolds number aerodynamics
 - Bio-inspired sub-systems
 - Propulsion and linear actuation
- **Processing for Autonomous Operation**
 - Autonomous navigation and control
 - Efficient information extraction and utilization
 - Dynamic collaborative processing
 - Cross-layer communications and network design
- **Microelectronics**
 - 3D Materials and circuit architectures
 - Sensors and actuators for platform and payload
 - Smart, multifunctional materials
 - Low power devices and electric power management
- **Platform Integration**
 - Microsystem architectures and design tools
 - Experimentation and analysis
 - Sub-system interactions
 - Multi-functional packaging



IV. Technology Transition Component

- **Contract awarded to the Consortium Lead**
 - Lead is expected to subcontract with other entities within Consortium and with other organizations as appropriate
- **No specific funding budgeted**
 - specific tasks negotiated and issued
- **\$80M ceiling over potential 10 year period of performance**



- **Features of Collaboration**

- Collaboration integral to executing research
- Lectures and Workshops
- Education Component
- Staff Rotation among Alliance (Consortium and Government) members

- **Demonstrations**

- each Principal Member must have demonstration facilities
- further, funds may be shifted after award to enable a centralized demonstration site



VI. Management

- **Executive Steering Board**
 - Senior Level Army Personnel
 - addresses issues of US Army policy
- **Research Management Board**
 - representatives from Army, other services, and other Government agency
 - identifies and develops collaborative opportunities, facilitates transition to development programs



VI. Management (cont'd)

- **Collaborative Alliance Manager**
 - senior ARL technical manager
 - responsible for overall technical and fiscal management
- **MAST Program Director**
 - senior Consortium technical representative
 - from Principal Member for Integration
 - responsible for management and guidance of cooperative agreement
- **Center Directors (3)**
 - senior Center technical representative
 - responsible for Center technical leadership, management, and guidance
- **Technical Management Group**
 - chaired by CAM
 - Program and Center Directors
 - corresponding Government technical leads
 - assist in executing responsibilities of CTA



VI. Management (cont'd)

- **Consortium Management Committee**

- one voting representative from each Principal Member
- General Members represented by respective Principal Member
- chaired by MAST Program Director (from Principal Member for Integration)
- CAM is ex officio member
- in the event of a tie the Principal Member for Integration casts deciding vote
- quarterly meetings



VI. Management (cont'd)

- **Articles of Collaboration**

- The MAST PA will include Articles of Collaboration (AoC) that address consortium structure and internal operating procedures:
 - Consortium Management Structure
 - Intellectual Property
 - Adding/Removing Consortium Members
 - Internal Disputes Resolution Procedures
 - Personnel Exchanges
 - Publication/Release of Information
 - Financial, Manpower and Facilities Responsibilities
 - Reporting Requirements
- Potential Offerors will be afforded an opportunity to comment on the AoC during the draft PA period
- Inclusion of the AoC in the PA ensures that otherwise disparate offerors are in agreement on a common set of internal operational guidelines



VI. Management (cont'd)

- **Initial Program Plan**
 - IPP based substantially on final proposals from four Principal Members
 - CMC works to develop integrated IPP
 - CAM approves IPP and transmits to Grants Officer
 - IPP accompanied by five-year roadmap
- **Annual Program Plan**
 - Lead and Centers develop plans independently
 - CMC works to develop integrated APP
 - CAM approves APP and transmits to Grants Officer
 - APP may be changed with approval of CAM and Grants Officer



VI. Management (cont'd)

- **Participation in ARL Annual Program Formulation Conference**
- **Evaluation of the Five-year Extension**
 - at the end of fourth year
 - evaluation will consider:
 - cumulative performance metrics
 - consortium's five-year vision
 - funding availability
 - current Army fundamental research needs
- **Collaborative Environment**
 - might be web-based, password protected
 - information repository
 - responsibility of the Lead



VII. Consortia Qualifications

- **Four Principal Members**
- **General Members**
 - Each Principal Member is expected to have no more than three General Members
- **HBCU/MI Members**
 - Each Research Center must have at least one (can be either a Principal Member or a General Member)
 - At least 10% of the funding for each Research Center must be for HBCU/MI Member(s)
- **Subawardees**
 - not considered members of the Consortium
- **FFRDC Participation**
 - May participate, but may not be a Principal Member
 - Must cost-share an amount equal to that provided them under the MAST CTA



VIII. Proposal Preparation and Submission (for each proposal)

- **Fundamental Research Component volume limited to 30 pages (does not include biographical sketches, current and pending support information)**
- **Research Centers:**
 - Technology Transition Component volume limited to 10 pages (does not include biographical sketches)
 - Proposal Management volume limited to 10 pages (does not include biographical sketches)
- **Lead**
 - Technology Transition Component volume limited to 20 pages (does not include biographical sketches)
 - Proposal Management volume limited to 20 pages (does not include biographical sketches)
- **Cost Volume (no page limitation)**



IX. Evaluation and Award

- Source Selection Evaluation Board (SSEB)
 - qualified scientists, managers, and cost specialists
 - evaluates each proposal and identifies strengths, weaknesses and clarifications
 - provides results to Source Selection Authority
- Source Selection Authority (SSA) makes decisions concerning the competitive range and award selection
- Proposals evaluated against factors using adjectival and color rating system
- Cost evaluated for realism, reasonableness, and affordability
- Negotiation discussions may be held, which may lead to revised proposal submission



IX. Evaluation and Award (con't)

Research Centers

- Fundamental Research Component
 - a. Technical Merit
 - b. Collaboration
 - c. Relevance
 - d. Facilities and Equipment
 - e. Credentials
- Technology Transition Component
 - f. Past Performance
 - g. Plan to Execute
- Management
 - h. Management
- Cost (not weighted)

Integrator

- Fundamental Research Component
 - a. Technical Merit
 - b. Collaboration
 - c. Relevance
 - d. Facilities and Equipment
 - e. Credentials
- Technology Transition Component
 - f. Past Performance
 - g. Plan to Execute
 - h. Subcontracting
- Management
 - i. Management
- Cost (not weighted)

- Combined weight of factors associated with Fundamental Research Component significantly more than combined weight of factors associated with the Technology Transition & Management Component
- Factors for Fundamental Research Component are listed in descending order of importance with
 - Factor (a) most important
 - Factors (b)-(d) approximately equal in importance
- Factors (f)-(g) approximately equal in importance [(f)-(h) for Integrator]

Approved for Public Release



IX. Evaluation and Award (con't)

Basis of Award

The Government will make award to the Consortium (consisting of the four Principal Members selected for award, and any General Members included in their proposals) that offers the best value to the Government, conforming to the PA, cost and other factors considered.

The Government reserves the right to make award to a Principal Member whose proposal is relatively close in overall merit to other proposal(s) received, but that proposal offers more synergistic value when combined with the other Principal Members selected for award. Further, award may be made to other than the offeror who offers the lowest cost proposal.



- **Here is what remains to be posted in connection with the PA:**
 - **ATTACHMENTS**
 - 1. Provisions for Late Submissions
 - 2. Proposal Cover Sheet
 - 3. Model Cooperative Agreement
 - 4. Model Contract
 - 5. Articles of Collaboration
 - 6. Representations and Certifications for the Cooperative Agreement



Still to Come...When you will see it!

- **The following are the estimated dates for future postings on the MAST CTA website:
(<http://www.arl.army.mil/MASTCTA>)**

ITEM	DATE
Presentations from Today	21 AUG 06
Answers to Questions (submitted thus far through today)	1 SEP 06
Final Version of PARTS I-IX	1 SEP 06
Attachments 1, 2 and 5	1 SEP 06
Attachments 3, 4 and 6	15 SEP 06



- ***Questions and comments after today are requested to be posted on the MAST CTA Program website.***
- ***The MAST CTA website also contains a place where vendors can register their interest in the MAST CTA***